Amendments to the Claims

1. (original) A method for transmitting data, comprising:

(a) receiving a first data stream from a first physical transmission medium using a first communications standard;

(b) appending to each byte in said first data stream a data type identification (DTID), thereby creating a technology independent data stream having a first bit rate;

(c) matching said first bit rate to a second bit rate that corresponds to a second communications standard; and

(e) transmitting said technology independent data stream over a second physical transmission medium using said second communications standard.

2. (original) The method of claim 1, wherein step (c) comprises:

(i) receiving at a first first-in-first-out (FIFO) buffer said technology independent data stream at said first bit rate;

(ii) when said first FIFO buffer is full, transmitting said technology independent data stream at said second bit rate according to step (e); and

(iii) when said FIFO buffer is empty, stopping said transmitting, thereby allowing said FIFO buffer to refill with said technology independent data stream.

3. (original) The method of claim 1, wherein step (a) comprises receiving said first data stream from a physical sub-layer of an IEEE 1394b data bus including an 8-bit data byte, an 8-bit request byte, and a 4-bit control byte.

4. (original) The method of claim 3, wherein step (b) comprises:

appending a first 2-bit DTID to each data byte;

appending a second 2-bit DTID to each request byte; and

appending a third 2-bit control DTID and four null bits to each control byte, thereby creating a technology independent data stream that represents said first data stream.

5. (currently amended) The method of claim 1, wherein step (e) comprises transmitting said technology independent data stream over said transmission medium using IEEE ~~803.2~~ 802.3 1000BASE-T standards.

6. (original) The method of claim 5, wherein step (e) comprises transmitting over a category five unshielded twisted pair (UTP) wiring.

7. (original) The method of claim 1, further comprising:

(f) receiving said technology independent data stream at said second bit rate;

(g) matching said second bit rate to said first bit rate;

(h) restoring said first data stream by removing said DTID from each byte of said technology independent data stream; and

(i) receiving said first data stream into a third transmission medium using said first communications standard.

8. (currently amended) A communications reconciliation sub-layer, comprising:

a transmit data type identification (DTID) circuit coupled to an output of a first transmission medium for appending a DTID to each byte in an original data stream thereby generating a technology independent data stream at first bit rate that represents [[an]] the original data stream from said first transmission medium;

a transmit first-in-first-out (FIFO) buffer coupled to an output of said transmit DTID and an input of a second transmission medium, said transmit FIFO buffer for matching said first bit rate to a second bit rate used by said second transmission medium;

a receive FIFO buffer coupled to an output of said second transmission medium, said receive FIFO buffer for matching said second bit rate to said first bit rate; and

a receive DTID circuit coupled to an output of said receive FIFO buffer for restoring said original data stream from said technology independent data stream.

9. (original) The reconciliation sub-layer of claim 8, wherein said transmit FIFO buffers is 120 bits deep.

10. (original) The reconciliation sub-layer of claim 8, wherein said transmit FIFO buffer is coupled to a pointer for indicating a status of said transmit FIFO buffer.

11. (original) The reconciliation sub-layer of claim 8, wherein said first transmission medium is an IEEE 1394b data bus.

12. (original) The reconciliation sub-layer of claim 11, wherein said original data stream comprises unencoded, unscrambled 1394b data from a physical sub-layer of said IEEE 1394b data bus.

13. (currently amended) The reconciliation sub-layer of claim 12, wherein said unencoded, unscrambled 1394b data is tapped from [[an]] a beta mode function circuit of said IEEE 1394b data bus.

14. (original) The reconciliation sub-layer of claim 8, wherein said second transmission medium is an IEEE 802.3 1000BASE-T data bus.

15. (original) The reconciliation sub-layer of claim 8, wherein said first transmission medium is a universal serial bus.

16. (currently amended) A communications sub-layer for transmitting data formatted according to a first communications standard over a physical medium designed for data formatted according to a second communications standard, comprising:

means for receiving a first data stream formatted according to the first communication standard;

means for appending a data type identification to each byte in said first data stream thereby creating a technology independent data stream from said first data stream, said technology independent data stream having a first bit rate;

means for matching said first bit rate to a second bit rate corresponding to the second communications standard; and

means for transmitting said technology independent data stream over the physical medium according to the second communications standard.

17. (original) The communications sub-layer of claim 16, further comprising:

means for receiving said technology independent data stream;

means for matching said second bit to said first bit rate;

means for restoring said first data stream from said technology independent data stream.

18. (canceled).

19. (original) The communications sub-layer of claim 18, wherein said restoring means comprises removing said data type identification from each byte of said technology data stream.

20. (original) The communications sub-layer of claim 17, wherein said matching means uses a first-in-first-out buffer.